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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,179	07/14/2006	Bruno Korneel Rene Tourwe	NL040439	7256

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EXAMINER	
FAULK, DEVONA E	
ART UNIT	**PAPER NUMBER**
2615	
MAIL DATE	**DELIVERY MODE**
09/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/597,179	TOURWE, BRUNO KORNEEL RENE	
	Examiner	Art Unit	
	DEVONA E. FAULK	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7 and 9-16* is/are rejected.

7)☒ Claim(s) *2-4,8 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/14/06* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 2-4,8,14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 15 recites "computer program comprising program code means..". The office considers this non-statutory subject matter because it does not fit within the recognized categories of statutory subject matter (See MPEP §2106 - §2106.02).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 16 recites " computer program product". The specification only briefly mentions "product" but fails to adequate disclose what is meant by product.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,11,12,15,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menkhoff (US 5,714,918) in view of Saito et al. (US 5,200,709).

Regarding claim 1, Menkhoff discloses a sound reproduction system (Figure 6) comprising a digital audio signal input (data input E, Figure 6; column 5, lines 26-32), a digital audio signal processor (digital signal processor is comprised of hp1,tp1, hp2,tp2,mh1,mt1 , mh2,mt2 Figure 6) and a digital audio signal output (output from adder ad1, Figure 6) wherein the digital signal processor comprises a high pass filter (hp1 ,Figure 6; column, lines 25-37) with a high pass frequency , an amplifier (mh1, Figure 6) for a signal filtered by the HP filter, and a low pass filter (tp2, Figure 6; column, lines 25-37) with a low pass frequency (for filtering the signal after amplification by the amplifier (mh1, Figure 6) and for providing an output signal, and the digital processor comprises an establisher for establishing the high pass frequency or the low pass

frequency (Menkhoff discloses that the frequencies of the high and low pass filters can be arbitrarily preset ; column 3, lines 54-59; establisher is implicit).

Menkhoff discloses that the frequencies of the high and low pass filters can be arbitrarily preset (column 3, lines 54-59). Menkhoff fails to teach of a matcher for matching the high pass frequency and low pass frequency of the high pass filter and low pass filter respectively to each other.

The concept of frequency matching is well known in the art as taught by Saito. Saito discloses frequency matching (abstract; column 7,lines 35-39) . It would have been obvious to modify Menkhoff to match the frequencies of the high and low pass filters for the benefit of maintaining a flat frequency response at the output and so that there will be less distortion.

Regarding claim 6, Menkhoff as modified discloses establishing a cut-off frequency for the low pass filter and matching the frequencies of the high pass filter to the low pass filter. Menkhoff as modified fails to disclose that the cut-off frequency of the low pass filter is fs/2 where fs is the sample frequency. The examiner asserts that this is a matter of design choice. It would have been obvious to modify Menkhoff as modified so that the cut-off frequency of the low pass filter is fs/2, where fs is the sample frequency for the benefit of obtaining a desired frequency response.

Regarding claim 7, Menkhoff as modified disclose a high pass filter with a variable cut-off frequency (Menkhoff , column 3, lines 60-61).

Claims 11 and 12 recite features recited and addressed in claim 1. All elements of claims 11 and 12 are comprehended by Menkhoff and Saito as applied above to the rejection of claim 1.

Regarding claims 15 and 16, the method in claim 11 is comprehended by Menkhoff and Saito as applied above to the rejection of claim 1. Computer programs that implement or execute a process are well known in the art. It would have been obvious to have the method of claim 11 executed by a program on a medium so that

5. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menkhoff (US 5,714,918) in view of Saito et al. (US 5,200,709) in view of Takagi et al. (US 5,018,205) .

Regarding claims 9 and 13, Menkhoff as modified discloses a cut-off frequency for the high pass filter. Menkhoff fails to disclose wherein the HP cut-off frequency lies between 300 Hz and 2 kHz. Takagi discloses wherein the HP cut-off frequency lies between 300Hz and 2 kHz (column 8, lines 63-66). It would have been obvious to modify Menkhoff so that the cut-off frequency for the high pass filter lies between 300 Hz and 2kHz for the benefit of obtaining a desired frequency response.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Menkhoff (US 5,714,918) in view of Saito et al. (US 5,200,709) in view of Lin (US 4,706,290) .

Regarding claim 5, Menkhoff as modified disclose a cut-off frequency for the low pass filter. Menkhoff fails to disclose wherein the LP cut-off frequency lies above 2 kHz and fs/2, where fs is the sample frequency. Lin discloses wherein the LP cut-off frequency lies above 2 kHz and fs/2, where fs is the sample frequency (column 5, lines 40-45). It would have been obvious to modify Menkhoff so that the cut-off frequency for the low pass filter lies above 2 kHz and fs/2, where fs is the sample frequency for the benefit of obtaining a desired frequency response.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Menkhoff (US 5,714,918) in view of Saito et al. (US 5,200,709) in view of Lechner (US 2006/0153403) .

Regarding claim 14, Menkhoff as modified discloses a cut-off frequency for the high pass filter. Menkhoff as modified fails to disclose that the cut-off frequency of the high pass filter is established in dependence on the average amplification in the amplification stage. Lechner discloses that the cut-off frequency of the high pass filter is established in dependence on the average amplification in the amplification stage (¶ 0022). It would have been obvious to modify Menkhoff as modified so that the cut-off frequency is establish in dependence on the average amplification for the benefit of achieving a desired frequency response.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Examiner, Art Unit 2615